

## Research Vessels and Ocean Observatories Group Portuguese Institute for Sea and Atmosphere



**Mário Ruivo RV** is an Ocean research vessel used in fisheries, oceanographic, hydrographic and geological research, including ROV operations. It is IPMA's multi-purpose platform to conduct surveys on the Atlantic Ocean, focusing on marine research and monitoring, allowing to respond to the national obligations towards EU directives, such as the Marine Strategy Framework Directive or the Common Fisheries Policy.

Built in 1986 as a support vessel of the Royal Navy, she was acquired by IPMA in 2015 and renamed after the Portuguese oceanographer *Mário Ruivo*, and being further adapted to support fisheries research and ROV operations.

### Permanent Scientific Equipment

<b>Motion reference system</b>	Kongsberg Seapath 380
<b>Net monitoring system</b>	Scanmar
<b>Low frequency scanning sonar</b>	Kongsberg Simrad SX93
<b>Multi-beam echo sounder 1</b>	Kongsberg EM712, 0.5x1°, 2000 m depth
<b>Multi-beam echo sounder 2</b>	Kongsberg EM304, 1x1°, full ocean depth
<b>Split-beam echo sounder</b>	Simrad EK80 multi-freq. w/ ADCP (≤400 m)
<b>Sub-bottom profiler</b>	Kongsberg TOPAS18, full ocean depth
<b>Primary positioning</b>	Kongsberg Seapath 380
<b>Secondary positioning</b>	Applanix POSMV Ocean Master
<b>Sound velocity profiler</b>	Valeport miniSVS

### Deck equipment

A-frame, stern HIDROFERSA SWL 16 ton & A-frame, bow, SB: SWL 10 ton  
 Cranes stern PT and SB: 2 x GUERRA M230.20A4, 1550 Kg – 11.7 m  
 Crane bow, SB: HEILA HLRM 140/4S SWL 8  
 Space on deck for 6 ship containers at bow + 120 m<sup>2</sup> working space at stern  
 Two side fixing poles to support scientific equipment on the port side  
 Two side arms at stern, 9 m in length, for towing scientific equipment.  
 CTD Winch 1500 m, 8.18 mm ø, AHC, SWL 1.7 ton  
 Oceanographic winch 6000 m, 12 mm ø, Dynice synt. rope, AHC, SWL 4.7 ton  
 GILSON Winches: 2x100 m, 16 mm ø, SWL 6 ton  
 Trawl winches: 2x3000 m, 24 mm ø, 270kW / 25 ton

### General characteristics

<b>Length   beam</b>	75.6 m   14.8 m
<b>Weight   draught</b>	2290 Ton   5.8 m (4.5+1.3 w/ gondola)
<b>Maximum   service speed</b>	11 knots   ≤10 knots
<b>Endurance</b>	≥30 days at sea without refueling
<b>Accommodation</b>	47 (27 researchers and technicians)
<b>Safety</b>	Complies with IMO, Lloyds Register and all national and international requirements

### Propulsion & Generators

<b>Engines</b>	2 X Ruston 8RKCM, 8V25.4, 1492 Kw (2000 Bhp) /900 rpm
<b>Bow Thrust</b>	Engine: Mirrlees Blackst. 6L22.2, 682 Kw (915 Bhp)/1000 rpm Thrust Unit: Tees Gill Jet, Omni-Directional, 700 Kw
<b>Stern Thruster</b>	Hundested Dk, 400 Kw
<b>Generators</b>	3 X Mirrlees Blackstone, 6L22.2, 400 Kw (Electric) / 900 rpm

### Navigation & Communication

<b>Dynamic positioning</b>	EMRI, DP1
<b>GPS</b>	2 x Simrad MX510   1 x JRC-JLR 7700MKII
<b>Radar</b>	1 x Furuno FAR-2107   1 x Furuno FAR-2105
<b>AIS</b>	JRC-JHS-182
<b>Navigation System</b>	ECDIS 1: Transas 4000   ECDIS 2: Furuno PCU-3010
<b>Gyro-Compass 1</b>	Raytheon Anshutz STD
<b>Gyro-Compass 2</b>	Simrad MX510
<b>Autopilot</b>	Simrad AP70
<b>Depth Measurement</b>	Hondex HE-7300-DI
<b>Satellite phone</b>	Sailor TT-3738A   Sailor SC 4120 Iridium phone

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